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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/813,161

03/31/2004

Charles D. Carr

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01/27/2006

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EXAMINER

STEIN, JAMES D

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 01/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/813,161

Applicant(s)

CARR, CHARLES D.

Examiner

James D. Stein

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-10 is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☒ Claim(s) 2-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Claims 1, 9 and 10 are objected to for being unclear. It is unclear whether “common (same) etching process” is intended to mean an etching process carried out at the *same time* on the various components of the device, or *separate but identical etching processes carried out at different times* on the various components of the device. Appropriate correction is required.

Response to Arguments

Applicant's arguments filed on 11/18/05 have been fully considered and entered. Although they have merit, they are not persuasive for the following reasons:

Firstly, applicant has argued that it is unreasonable to interpret elements 12 and 14 of Bourcier as “plates”. This argument is not persuasive. Both of said elements include a flat mounting surfaces for mounting or holding components thereon. These elements appear to have surfaces that are smooth, flat and relatively thin, as shown by the figures (definition of plate as per American Heritage dictionary). Although the plates disclosed by applicant arguably more plate-like in nature than those of Bourcier, it is not unreasonable to refer to them as such, especially because both Bourcier and Applicant disclose inventions in the optical alignment art that perform very similar functions. Similarly, an issued Patent to Applicant for the claimed invention should provide for similar latitude of interpretation of the various claimed elements.

Secondly, applicant has argued that Bourcier does not disclose a base plate. This is not persuasive. As discussed in the previous Action, Bourcier *does* disclose a base plate (although not shown, col. 4 lines 52-55) on which the sliding plate 12 and rotating plate 14 are mounted.

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Moreover, it is inherent that the elements 12 and 14 be mounted on a surface of some sort, as they cannot float in space.

The Examiner agrees with Applicant that Deane does not teach manufacturing optical elements to the same tolerance by chemical etching. *However*, because independent claim 1 is an *apparatus* claim, the *method* limitations are not given significant patentable weight. Claim 1 recites: “. . .said sliding plate and said rotatable plate include features manufactured to the same tolerance by being chemically etched by the same process.” This is clearly a manufacturing method limitation rather than a limitation that adds structural component(s) to the optical alignment *apparatus*, as recited in the preamble. If one were to look at both Applicant’s invention and that of Bourcier, it would not be apparent which included features that were chemically etched by the same process. Such method limitations can only be given patentable weight in a claim with a method-style preamble. For instance, claims 9 and 10 (method claims), recite similar language that has been given patentable weight. Therefore, the *apparatus itself* as recited in claim 1 reads on Bourcier. The rejections in the previous Action in view of Deane are hereby withdrawn and made in view of Bourcier alone.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 is rejected under 35 U.S.C. 102(a) and (e) as being anticipated by [USPAT

6,571,041] to Bourcier et al., which discloses a related optical alignment device. Fig. 15 of Bourcier et al. shows an optical alignment device comprising a base plate (not shown, abstract and col. 4 lines 52-55), a rotatable plate 14 rotatably mounted on the base plate (col. 4 line 65 – col. 5 line 5); and a sliding plate 12 slidably mounted on the base plate (col. 6 lines 13-16). Fig. 15 shows the rotatable plate 14 to include mounting surfaces 98 for mounting optical components 11 thereon (col. 5 lines 41-45). Furthermore, the mounting surface is taught to further comprise v-groove features for mounting optical elements 11 (col. 5 lines 46-48). Fig. 5 also shows that the sliding plate 12 includes features (32, 22 26, 28, 30 and 16). Additionally, the base plate (not shown) must inherently include features to accommodate the sliding surface 16 of the sliding plate (abstract, col. 6 lines 14-15).

Therefore, Bourcier et al. disclose the claimed invention except for said features to be manufactured to the same tolerance by being chemically etched by the same process, which has not been given patentable weight for the reasons discussed above in the “*Response to Arguments*” section.

Allowable Subject Matter

Claims 8-10 are allowed

With regard to claims 8-9, none of the cited prior art discloses or suggests a method of making an optical alignment apparatus, comprising; providing a base plate, and a rotatable plate

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and a sliding plate for mounting to said base plate; etching a slot in said base plate for mounting said sliding plate; etching grooves in an underside of said base plate on either side of said slot; etching transversely extending tabs on said sliding plate in a thickness direction thereof; mounting said sliding plate to said base plate such that said tabs ride in said grooves and upper surfaces of said sliding plate are flush with said base plate at regions apart from an optical element mounting surface of said sliding plate; and mounting said rotatable plate to said base plate at a pivot point. The etched regions discussed in the Deane reference are intended for mounting optical components, rather than for providing structural features that facilitate the motion of the sliding and rotating plates. It would not have been obvious to modify the devices disclosed in the prior art to achieve these structural features as a means to improve alignment tolerances.

With regard to claim 10, none of the cited prior art discloses or suggests a method of aligning optical components, comprising; providing a base plate, and a sliding plate and a rotatable plate mountable on said base plate; said plates being prepared through a common etching process, assembling said sliding plate and said rotatable plate to said base plate; attaching optical components to said sliding plate and said rotatable plate; attaching a linear stage to said sliding plate for positioning thereof; aligning said optical components by positioning said sliding plate and said rotatable plate, and soldering said rotatable plate and said sliding plate to said base plate at heat isolation locations thereof. Bourcier does not teach etching. Since Bourcier is able to optically align optical components as desired, it would not have been obvious to one of ordinary skill in the art that etching the structural features would improve the accuracy or precision of optical alignment thereof.

Claims 2-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the cited prior art discloses or suggests the base plate to include ~~as~~ a slot for guiding said sliding plate, and an underside surface which includes first etched regions on either side of said slot, and wherein the sliding plate includes extended portions including transversely projecting tabs, upper surfaces of said tabs being in contact with said first etched regions. The etched regions discussed in the Deane reference are intended for mounting optical components, rather than for providing structural features that facilitate the motion of the sliding and rotating plates. It would not have been obvious to modify the devices disclosed in the prior art to achieve these structural features as a means to improve alignment tolerances.

Conclusion

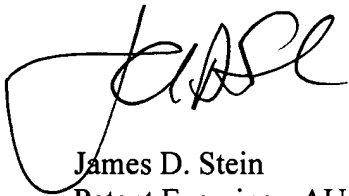
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: [USPAT 6,841,486] to Boudreau et al., which discloses an optical alignment device that teaches a single etching process (col. 2 lines 12-15).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D. Stein whose telephone number is (571) 272-2132. The examiner can normally be reached on M-F (8:00am-4:30pm).

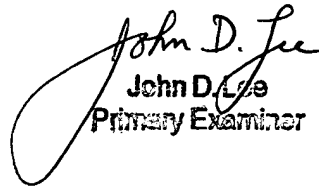
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



James D. Stein
Patent Examiner, AU 2874



John D. Lee
Primary Examiner